



The Mid-South Flyer

Winter 2017



A Publication of the Mid-South Chapter of the Railway & Locomotive Historical Society, Inc

Winter Meeting

Santa Fe through Arizona featured program

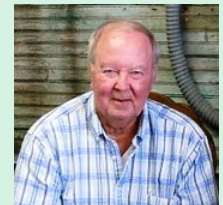
The Atchison, Topeka & Santa Fe's double-track mainline between Kingman and Williams, Arizona is widely recognized as one of the most scenic routes in the United States. Such landmarks as Kingman, Crozier and Pan Canyons, Yampai Summit, and the Crookton Cutoff have attracted railfans for the past century.

Mid-South Chapter member Lamont Downs, who lived in southern Nevada for over thirty years, frequently roamed over the former Route 66 which closely parallels this line for much of its length. At the chapter's February 18 annual meeting Lamont will discuss the history of the line, illustrated with videos taken in the early to late nineteen-nineties. Starting when the Santa Fe was still running diesels wearing the striking "warbonnet" scheme, it will also include some of the earliest appearances of diesels painted for the newly-formed Burlington Northern Santa Fe.



Lamont Downs, our membership secretary, reports we're well on our way to 100% membership renewals for 2017. In the event your renewal notice has slipped your attention, this is a friendly reminder that Chapter and national R&LHS dues are now overdue. Your active membership will insure your uninterrupted subscription to *Railroad History*, the critically acclaimed journal of the R&LHS, and the *MidSouth Flyer*, your source for local and regional railroad history. Your chapter dues are our primary funding source and critical for chapter programs and restoration activities. If you haven't yet renewed your membership, please go to the R&LHS website at rlhs.org and do so now.

MidSouth Chapter to honor the contribution of deceased board member Larry Kelpke



MidSouth Chapter members were saddened by the news of the sudden passing of long-time board member Larry Kelpke on February 3rd.

Larry's devoted friendship and enthusiasm for the Chapter were infectious. He genuinely loved the Leeds depot and fought for its preservation. Together with fellow Chapter member Eddie Cook, Larry helped restore a number of railroad artifacts on display at the depot, including an original Terminal Station baggage cart.

Larry's contribution to the Chapter will be recognized during a reception at the depot following a memorial service on Saturday, February 18. The service will be held at Kilgore Funeral Home in Leeds at 10AM, with the reception immediately following at the depot. Chapter members and guests are invited to attend both the service and reception, and remain or return for the regular chapter meeting starting at 2PM. The depot will remain open until the conclusion of the chapter meeting.

A Drones-Eye View



As drone technology advances, drone photography has opened up a new world to railfans. The FAA does have restrictions on the use of drones, but using it to railfan allows the photographer to pull off shots that couldn't be achieved from the ground. Above, on January 27, 2017 at 3:32 pm, using a DJI Mavic drone, we see NS Train 187 (top) pulling out of Norris yard with a nice mix of KCS/NS/BNSF/SP power, as NS train 314 (below) pulls up on the passenger main to change crews in Irondale, AL. Note that power for all five Class One railroads is represented. (Photo by Terry Lovell via Donnie Strickland)

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The Mid-South Flyer is published quarterly by the Mid-South Chapter of the Railway & Locomotive Historical Society (R&LHS), Inc. The R&LHS is a non-profit educational organization dedicated to the study and preservation of railroad history. National and chapter dues are \$50 and include subscriptions to the Society's twice-yearly magazine *Railroad History* and quarterly newsletter, and the chapter's e-newsletter, the *Mid-South Flyer*. Membership applications for R&LHS and the Mid-South Chapter are available on the Internet at rlhs.org. Contributions, article ideas and reader comments are encouraged and may be emailed to:

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Editor's Corner



Welcome, dear reader, to the Winter 2017 edition of the *Mid-South Flyer*. We are happy to have you with us and look forward to bringing you more informative articles on railroad history from the Midsouth region.

As this issue illustrates, our chapter is fortunate to have a number of knowledgeable members who write well on a wide variety of historical and contemporary railroad subjects. John Stewart, a regular contributor and resident expert on Birmingham industrial railroad and mining, wraps up his series on the Birmingham Belt with a first-person account by former Frisco switchman Stephen Warner.

In his second contribution to the newsletter, MidSouth member Warren Jones tells the interesting story of the origins of railroad telegraphy. Spoiler alert: It didn't begin with Samuel Morse!

Back with us after too long an absence, MidSouth charter member Stan Burnett examines the role of rule books, the railroad's "bible" for insuring safe and efficient train operations. And who hasn't heard of "Rule G"?

Wrapping up, our regular "Golden Era Classic" brings a welcome "breeze." So, sit back with another cup of Joe (or your favorite beverage) and soak up some good reading!

Marvin Clemons, Editor



Mid-South Chapter Update

Reported by James Lowery

Membership Renewal

If you have recently joined or renewed your membership in the Railway & Locomotive Historical Society and the Mid-South Chapter, we very much appreciate that and look forward to your participating in the Chapter during 2017. If you have not already renewed your membership, that time of the year has come around again! We would like to have you continue as an R&LHS and Mid-South member or to join if you are not already a member.

Election of Board Members and Officers

At the Chapter's Annual Meeting on February 18, 2017, the membership will be asked to elect or re-elect members of the Board of Directors and Officers for terms that have expired or that have been vacant. The Board of Directors has nominated the following persons to fill the positions indicated:

- Re-election of Board member John Troulias
- Re-election of Board member Tim Smith
- Election of new Board member Warren Jones
- Re-election of Dr. Carl Marbury as Vice President
- Re-election of Lamont Downs as Secretary
- Re-election of James Lowery as Treasurer

With the death of Larry Kelpke and the resignation of two of our long-time Board members, we have three vacancies on the Board of Directors, and we want to fill those vacancies during the year. If you would like to serve on the Board or know someone who would like to serve, please contact James Lowery at JLowery2@gmail.com or (205) 908-0179.

Year in Review

The Year 2016 was a busy one for the Mid-South Chapter. Our successes include the following:

- Regular Chapter meetings with program presentations.
- Wonderful website and timely updating.
- Wonderful newsletter.
- Frank Ardrey photos scanned, added to Mid-South Chapter website, and several of them re-produced in large format and framed for mounting on walls of the Leeds Historic Depot exhibit room.
- Restored Birmingham Terminal Station baggage cart added to Leeds Historic Depot Baggage Room.
- Leeds Historic Depot Baggage Room painted.
- Large format historic railroad photos and captions added to Leeds Historic Depot Baggage Room walls.
- Historic Birmingham Mineral Railroad Signs Project installed 117 signs across 5 counties in central Alabama.
- Alabama Center for Railroad History and Archives created in conjunction with Heart of Dixie Railroad Museum, and scanning has begun.

Chapter Projects

All the Mid-South Chapter projects are designed to benefit the members and to educate the members, others in the



Mid-South Chapter Update

Reported by James Lowery

historic railroad community, and the general public about the railroad history of this area and Alabama. I would like to thank all the Chapter members who have been involved in, who have participated in, and who have supported, the following member-led projects of the Chapter:

Frank Ardrey Photography Exhibit (Project Lead: Marvin Clemons)

Historic Birmingham Mineral Railroad Signs Project (Project Lead: James Lowery)

Digital Archives (“Alabama Center for Railroad History and Archives”) (Joint Project with Heart of Dixie Railroad Museum. Mid-South Chapter representatives on the committee are Marvin Clemons, Donnie Strickland, and James Lowery, Ex Officio)

Railroad Theming the walls in the Leeds Historic Depot (Initial phase completed; continuing project) (Project Lead: Tim Smith, Marvin Clemons, Donnie Strickland, and Larry Kelpke [deceased])

Restoration and installation of Birmingham Terminal Station Baggage Cart by Larry Kelpke [deceased] and former Board member, Eddie Cook.

BIRMINGHAM TERMINAL STATION FINE ART PRINTS

BY TRANSPORTATION JOURNALIST & PHOTOGRAPHER DON PHILLIPS



Main Waiting Room, Southeast View



Main Waiting Room, Southwest View

These photographs show the southern view of the main waiting room at Birmingham Terminal Station in October 1968, just a year before the station’s closure. These were made by noted transportation journalist and photographer Don Phillips, a long-time columnist for *Trains* magazine. The images appear in *Great Temple of Travel*, a history of the station penned by railroad author and long-time Birmingham resident Marvin Clemons. The prints were made from high-resolution scans of the original negatives, and were digitally processed and printed by David C. Lester of NatureBook Photography, LLC. Only archival inks and other materials were used. Each print is double-matted, ready for framing, and is being offered in a limited edition of 100.

Proceeds benefit the permanent Frank Ardrey Photography Exhibit of the Mid-South Chapter of the Railway & Locomotive Historical Society

PRICE PER PRINT: \$125.00

You are invited to view these professionally-framed, studio-quality prints on display in the Agent’s Office during the February Chapter meeting. Only two framed prints are available at this offering.

Birmingham Belt, Part 3

Switching the Belt, 1968

by *Stephen Warner*
(*warner88@juno.com*)



[Ed's Note: Mr. Warner writes of his experience in 1968 as a switchman on the Frisco Railroad, and unless otherwise noted, includes a number of photos taken by Warren Reed in 1980 and previously published in Model Railroader Magazine, October, 1991. Photos used with kind permission of Kalmbach Publishing.]

In the spring of 1968, I was in my third year at the University of Tennessee, majoring in Transportation. I had previously qualified as Yard Clerk on the former Virginian Railway in Roanoke, and worked as Apprentice Carman at the former Nickle Plate's Bellevue Yard. Thus, I intended to add to my hands-on education by once again applying to several railroads for a summer job. Most either did not respond or replied that due to business conditions they were not hiring (while many today are accustomed to a relatively prosperous railroad environment, in the late 1960's before deregulation, the industry was much worse off). However, I was rewarded by a letter with an SL-SF return address, offering me a job as Switchman on the Frisco's Birmingham Terminal in Birmingham, Alabama. So, to me this was the perfect offer. I replied in the affirmative, packed my bag into my '61 VW, and soon was on my way to the Frisco's East Thomas Yard in Birmingham.

At the time, I was initially unaware that the Frisco and its two Operating Unions, Brotherhood of Railroad Trainmen and Switchmen's Union of North America, were in a contractual dispute over pay for radio use. I really gave little thought to the fact that I saw no radios on the yard when I started to "cub" for qualification as Switchman, even though I was used to seeing them in use on Southern. But following my first mark up on the Extra Board, there was an adjustment from the eastern-style of railroading to Frisco's western-style, including different hand and lantern signals and no radios. Today, looking back, I realize that I was fortunate (or unfortunate) to be immersed in a much earlier operating environment, one that is practically unknown to most of the present generation of railroaders.

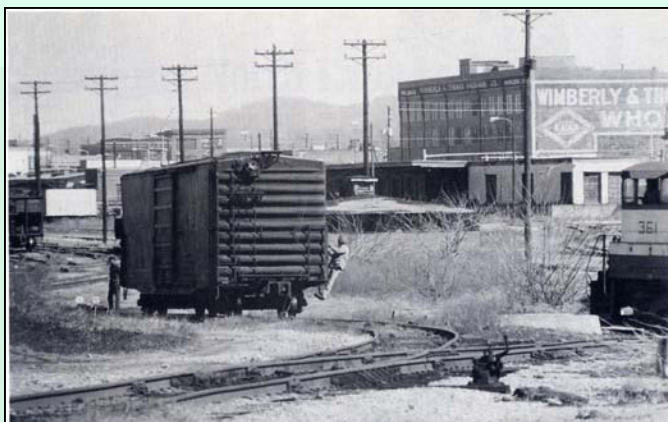
During 1968, the Frisco was absorbing the Birmingham Belt into its corporate structure, and there was little noticeable differentiation between the Belt and the Frisco. So, I was not aware of the Birmingham Belt as a separate entity. Crews referred to "the Belt", but to me that was simply designation of certain trackage, not a corporate entity. My working Timetable No. 47's Special Instructions only had a few designations as "Belt", such as load limits, the two Belt Interlocking at grade at 10th Avenue and 27th Street (SAL), and at North Birmingham (Southern's Northern Alabama Railroad) on the 27th Street Corridor. That was it, except for the Job List showing Jobs No.'s 1, 2, 5, 6, 7, 8, 25, and 31 as being Belt Jobs (not Birmingham Belt Jobs).

For those of us on the Extra Board, our purpose was to relieve individual Switchmen when they marked off for personal reasons, or when extra jobs not regularly operated were called to work. As such, in addition to the previously mentioned Belt Jobs we were subject to work Frisco jobs and Illinois Central jobs. This was because Frisco also contractually operated the Illinois Central (north) terminal side of East Thomas Yard. Frisco's IC responsibilities were to make and break up IC road trains, which operated into East Thomas Yard on trackage rights over the Frisco, and to handle their interchange with the other roads in Birmingham Terminal. And while on the IC Yard Jobs we used black IC switchers and GP-9's, these jobs went on duty at the IC roundhouse on the north side of the yard and to my knowledge rarely worked any Belt assignments. All the Belt and Frisco Jobs that I worked reported on duty at the Frisco roundhouse on the south side of the yard and used Frisco engines.



The North Belt jobs switched mainly the Steel-related and concrete industries along the Belt north of East Thomas Yard. Being on the Extra Board, my Time Book shows that I sometimes worked the 7AM job switching Sloss – Sheffield By-Products Plant NW of L&N's Boyles Yard. This generally was on Job 1, but sometimes I caught these North Belt jobs on the 3rd Trick, Job 25, overnight to dawn.

Around 8:30 on the evening of July 11, the pay phone outside of my room in my boarding house north of Highland Avenue rang. The call office, located in the Frisco roundhouse, wanted me for Job 25, North Belt, with Foreman Rutherford and SW-7 301. One of the steel mills we switched that hot night was the Sloss - Sheffield Furnace in North B'ham. My impressions that night, even more than at other times, were of the heavy smell of coal smoke and steel, and of the black dust and dirt footing with dim lighting and the constant roar of the steel furnaces and other machinery. Hot poured steel made for spectacular fireworks in the night. All that required continual awareness, with careful, uneven footing in the black dirt, trash, and pieces of steel and junk lying around. It was in such conditions that night that a memorable incident occurred. I was working as the "pinner" or pin puller, the switchman who worked closest to the engine. One of the tracks was accessed from a switching lead that lead in and up a slight hill to the right, then through a switch that reversed direction down into the steel mill.



Sometime after midnight we shoved a steel gondola ahead of the engine, passed the switch and then stopped at the bumping post. The Foreman signaled for me to throw the switch when they went back down the lead. The 310 passed me and I started to throw the switch, but noticed that they had left the gon behind and it was rolling down toward me. Assuming that they had accidentally cut the car off too soon, I threw the switch back and it rolled down onto the engine that had stopped on the lead. Rutherford came over and asked me why I threw the switch back, and of course I said that they evidently had let the car loose. He rolled his eyes at having to explain basic railroading to a new kid, and explained sarcastically that they were "dropping" the car straight down the hill into the plant. Oh, right. Thanks for explaining to an extra man what they did there every night.

Ah, communication! Today we would call what was missing a Job Briefing, where the work, hazards, and responsibilities are discussed before starting the job. In those days, not much was discussed before working. Assumption was normal.

A memorable job which I caught several times was switching the Illinois Central's *Seminole* at Terminal Station. This was, of course, on the Birmingham Terminal Company, so well captured in Marvin Clemons *Great Temple of Travel* and in Marvin Clemons and Lyle Key's *Birmingham Rails*. Since Frisco also handled Illinois Central's East Thomas Yard work with IC engines and was a member of the Birmingham Terminal Company, naturally the job of switching the IC *Seminole* fell on us. To do that, we had to use the Belt's track just to the north of Frisco's 9th Avenue Yard and Freight Station, connecting to Southern's 27th Street Corridor into Terminal Station, which then connected to Southern's AGS mains at 27th Street Tower. In the summer of 1968, No. 9 arrived from the north at 7:50AM. Our responsibility was to first take off the Birmingham coaches from the rear, then race to the south end to take off the head end mail and express cars in time for the 8:20 departure.

So, at 4:30 AM on July 28, my boarding house pay phone rang (did I say that these odd-hour calls were less than popular with my other boarders?). I was called for Job 38, Eng. 252, with Eng. Foreman K. R. Fowler. After going on duty at 6:30AM on a blessedly-cool morning, we climbed up onto our engine, NW-2 No. 252, left the roundhouse and, after running to the junction west of the yard with the passenger main, ran up and over Billy Goat Hill and then down the other side for the station. Arriving at Terminal Station around 7:15, since the *Seminole* was a bit tardy we had time to spot the 252 on an empty shed track, and occupied counter stools in the lightly-patronized coffee shop for a cup of good ole black coffee. When No. 9 rolled in, we cleared the north ladder switch, coupled onto the rear end and pulled the Birmingham coaches off to be stored later. Then, we pulled back north to run down to the south end to work the head end.



Frisco switcher #262 switches out the Illinois Central's *Seminole*
(Jim Thorington photo)

Riding the side of the 252's footboard, I made the coupling to the brown and orange IC E-8's, stretched the coupling to ensure that it was made, and then searched by the E-8's coupler for the angle cock to cut in the air. It was nowhere to be found. Panic – the clock's ticking. From the cab of the 252, Fowler saw my confusion and pointed to the side leading truck. Sure enough, there it was. Meanwhile, the Fielder had climbed up into the E-8 to cut out the air. I gently eased the air into the train's train line, and suddenly, POW! The air went into Emergency. Angry and loudly cursing that I hadn't dumped the air, I slammed the angle cock the rest of the way and climbed onto the 252. Meanwhile, the fielder was back in the 252's cab blaming me for dumping the air and getting a delay on No. 9's departure. Fowler, who was one of the finest Foreman that I worked for (I later knew his brother on Southern) calmly told him "The kid didn't dump the air – I was watching him. You were late cutting the air out". Mr. Fowler just became my hero.

Evenings were calmer times switching Terminal Station, not to mention a bit cooler, too. Working Job No. 34 with Baldwin 252 on August 21, we stopped at Ed Salem's diner at the corner of 27th Street North and 10th Avenue North. This felt really cool – customers' autos parked in the parking lot in front, and we "parked" our 252 yard goat right beside the cars in the parking lot, walked in with the customers, albeit with boots, switch keys, timetables, gloves, and caps, and took our twenty minutes' meal time (or maybe "just a tiny bit" over) to eat while waiting No. 10's 6:35PM arrival. Putting the coaches and head end on was just a normal operation with no excitement that night. But that was the only time before or since that ever I took my engine "out to eat"!



Frisco switcher #232 crosses the Southern and L&N mains with cut from 14th Street yard (Carl Ardrey photo)

An unusual city street operation, one of the few remaining of the many that existed over the country a century ago, was the Southside Switcher. I only caught the job once. We went on duty at the East Thomas Roundhouse, ran light up Billy Goat Hill to connect to trackage on the west side of downtown leading to a track parallel to and north of the AGS and L&N high grade. We first pulled west to clear the switch leading up to the Alabama Great Southern and L&N mains, then ran east up the switchback to the 14th Street Interlocking Plant. After holding for some L&N traffic to pass (yard crews are used to waiting on road trains), the Operator finally gave us a Restricting Dwarf signal and we rattled over the AGS and L&N crossovers to run down the south embankment to the little yard at 15th St South and Avenue E (later used by the Heart of Dixie Railroad Museum). The Foreman and I crossed over to the abandoned and pretty much vandalized yard office to find the waybills. We switched the cars into the order that they will be spotted, tried the air, and pulled up the hill to start down into town. This Sunday morning, I recall as bright and cool, unusual for an extremely hot summer. End cab first and pulling

a short cut of a couple of boxcars and grain hoppers, we rolled down Fourteenth Street South at about a slow walking speed. Except for the occasional auto, the town was deserted and peaceful, a total change from its weekday crowds and traffic. Other than our SW-7 at almost idle and the bell, the only sound was the ringing of the downtown church bells. As we approached one intersection, the light went yellow, and the hogger jammed on the Independent brake, banging to a stop short of the intersection. Being used to flying over road crossings on road freight and passenger engines at timetable speed, I was confused. The hoghead sat back and explained that trains there were required to obey traffic signals, and that the City Police liked to give them tickets if they got into the intersection. Wow. Do we also put nickels in parking meters?

Some of the city industries had extremely sharp curvature on their tracks, and since we handled air on this job, we also had to handle angle cocks and air hoses, making for some unusual problems. Farmers and Ginners Cotton Oil Company near Eighth Street was an extreme example of both curvature and air handling. We had to spot a pair of their cars on a sharp left-hand curve with buildings close on each side, so I walked along the left side of the cars next to the car to be spotted on their track. After we stopped the shove, I tried to reach in to close the angle cock between the car that we held onto and the car to be cut off. That was the first time that I ever saw car corners so close due to curvature that I could not reach through between cars. So, I had to walk back around the engine and up to the car from the other side to close the angle cock, then reverse the procedure to the other side to lift the cut lever, and signal the go ahead. I wasn't a fan of tight sidings. With stop lights, switch levers under steel lids (often bend or jammed) to throw the



Switching a cut on a sharply curved industrial spur while obeying traffic signals along 14th Street South

switches, tight curvature, and City Police looking for an infraction, the City Belt Operation was more interesting to observe than to work.

Frisco also used the Belt's trackage from East Thomas to interchange with the L&N between Boyles Yard and Lehigh Portland Cement, to Southern's Norris Yard in Irondale, both to the east, and to the Seaboard Airline's Thirty Second Street Yard, south of Southern's Twenty Seventh Street Tower and their AGS mains. To get to the SAL, we crossed over the Southern's 27th Street Corridor at North Birmingham and ran up the hill on the Belt branch adjacent and east of the Southern's Block One, topped Norwood Hill, and went east down 32nd Street to the Home Signal at the AGS mains. Most often we had to wait a while for Southern's traffic to clear, and then banged over on the diamonds to set out and pick up in the SAL Yard. SAL often would reciprocate with a run-through train up the Belt to our East Thomas Yard, generally entering on the IC side.



**Frisco transfer running along 32nd Street en route to SAL yard
(Jim Thornton photo)**

Interchange then and today was an interesting contest of wills. Railroad owners of cars were to be paid per diem charges by the using road, ranging from \$10 to \$25 per car for each twenty-four hours the cars were on the user

road's property. And as midnight began another day, it was a midnight race to get cars out of one road's accounts and into the receiving road's accounts. And naturally, the receiving road's unofficial practice was to refuse to let the delivering road onto its Interchange Tracks until after midnight. This could add up to big bucks.

I learned this first-hand working the IC Drag, Job 15, on IC Geeps 9064 and 8233. We left East Thomas around 9PM going to Southern with a long string of Frisco and IC cars. After crossing Southern's 27 Street Corridor, we ran down Southern's Woodlawn-Bessemer Branch to the connection with Southern's main line trackage, a few miles west of Southern's Norris Yard. We stopped around 11PM at a red dwarf signal governing our entrance to Southern's main tracks to Norris, whereupon Foreman Abney leaned back on the seat box, propped his feet up and drawled, "Just relax, we'll be here until midnight". Repeated calls to the Yardmaster for clearance up the Southern mains to their Norris Yard in Irondale only brought us a curt "Talk to you later". In response to my puzzlement, Abney explained the unofficial procedures, which were most likely instigated during Southern President Dennis W. Brosnan's time to cut costs.

Sure enough, the YM called us at 12:01AM and gave us the dwarf signal to come up into the yard. Frisco and IC had to pay for all those cars for that day. As a side note on that same trip, since Southern had cut back on maintenance in those less-than-profitable days, the yard switches were rarely lubricated. Trying to throw the switch to get back out of the yard, it hung up half-way over. And as the other Switchman was a bit heavier than I was, he had to get down and help me throw it. We finally got back to East Thomas at 12:39AM, earning forty minutes' overtime (of which we did not complain).

These days, after being in railroad operations approaching fifty years and looking back on my Frisco and the Birmingham Belt days, I have two observations. First, how far we in the railroad industry have come from those "good old days", and second, how lucky I was to have railroaded (and survived) in what varied little from the first half of the 1900's, diesel instead of steam excepted.

And those engines mostly were older generation at that. Remote control locomotives, distributed power, and CAD Dispatching are a long way from Form 31 and 19 flimsies, torpedoes and fusees for flagging, and radio and iPad communication.



**A Frisco transfer with GPs #615-623 returning light from Norris Yard
passing Sloss Furnace en route to East Thomas (Jim Thornton photo)**

Questions or comments to Stephen Warner at .

General History

The Victorian Internet

by Warren Jones
(wjones1302@gmail.com)



S

ince the word “telegraph” was invented in France (*telegraphe* in French means “far writer”) in April 1791, based on the invention of Claude Chappe, we might be tempted to assume that his message signaling system was the electric telegraph. Not so. As Isaac Newton suggested, we need to remember that new ideas are built on the precursor ideas of others. Like smoke signals, drum beats and messenger pigeons before it, the Chappe hilltop semaphore system with large movable arms and telescopes was only one more attempt to transmit information over long distances.



Claude Chappe

When Napoleon Bonaparte came to power in 1799, he saw the military value of the Chappe system and created a network of towers across France. Soon various versions of the tower semaphore signaling telegraphs spread across Europe. An entry in the 1797 edition of *Encyclopedia Britannica* captured the excitement of the time:

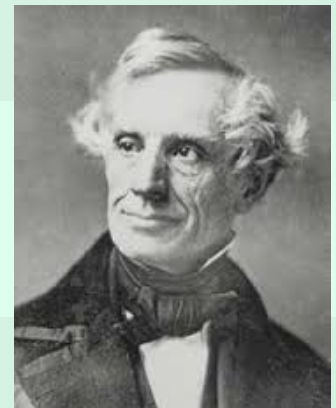
“The capitals of distant nations might be united by chains of posts, and the settling of those disputes which at present take up months or years might then be accomplished in as many hours,” the *Encyclopedia* opined. Unfortunately, the feverish intensity of criticism and claims of rival inventors was too much for Chappe, and he killed himself by jumping into the well outside the Telegraph Administration building in Paris. His grave is marked by a tombstone engraved with a telegraph tower with the semaphores showing the signal code for “at rest”.

Between 1753 and 1837, as many as sixty experiments are known to have been devised as attempts to send messages using electricity as a replacement for the established optical semaphore towers. Little progress was made, primarily because of the lack of understanding of electricity (especially batteries) and magnetism. The emergence of the modern voltaic cell by Alessandro Volta in 1800, and Hans Christian Oersted’s discovery in 1820 of a magnetic field surrounding a wire in which electricity flows, were key developments needed by Samuel F. B. Morse to demonstrate the practicality of an electric telegraph.

Samuel Morse

In 1832 at the age of 41, Morse was a successful painter and helped to found the National Academy of Design in New York City. Among his notable works are portraits of John Adams, James Monroe and Marquis de Lafayette, the leading supporter of the American Revolution. However, on a transatlantic trip from Europe, he was captivated by a discussion about the possibility of an electric telegraph. With help from others, he designed a demonstration that operated over ten miles of cable.

His opportunity to gain the interest of the U.S. government came when Congress considered a proposal to build a Chappe-like line of telegraph towers between New York and New Orleans. Morse’s proposal for an alternative electric telegraph using the dots and dashes of his new code received little interest. A second attempt did win Congressional support by the narrow margin of 89 to 83 for a \$30,000 grant. For a demonstration, Morse obtained permission to set up his telegraph lines on the right-of-way of the



Samuel Morse

Baltimore & Ohio Railroad between Washington and Baltimore, a distance of 40 miles. Part of the deal was to grant the B&O free access in case the demonstration was successful.

When information about nominees from a Baltimore political convention was transmitted over the telegraph system, reaching Washington sixty four minutes before a speeding train carrying the news, the skeptics were convinced it would work. Yet, after only three months of operation, Congress decided to drop the project due to the perception that it didn't appear to have any practical use.

Giving up on government support, in 1845 the visionary Morse formed the Magnetic Telegraph Company with an ambitious strategy to build lines from New York to Philadelphia, Boston, Buffalo and westward toward the Mississippi River. The growth of telegraphy then became explosive. By 1850 there were over 12,000 miles of lines operated by twenty different companies.

On October 24, 1861, six months after the beginning of the Civil War, the completion of the transcontinental telegraph line by Western Union shut down the famous mail-carrying pony express that took ten days to carry messages over the 1,800 miles between St. Joseph, Missouri and Sacramento. Suddenly a watch instead of a calendar became the measure of time across the continent.

The coast-to-coast telegraph preceded the first transcontinental railroad completion by eight years. At the famous May 10, 1869 Golden Spike ceremony, the telegraph was there to communicate the event from the Atlantic to the Pacific coast. One end of the wire was connected to the hammer and the other to the spike, with each blow communicated over the telegraph system as part of the celebration.

Telegraph messengers and operators

When a telegraph message was received at the nearest telegraph office in a town, the message was transcribed onto paper and delivered by a messenger to the recipient. The job of messenger boy was attractive employment, since it offered the opportunity to learn Morse code and move up to the position of telegraph operator. Two famous people who began their business career as telegraph messenger boys were Thomas Edison and Andrew Carnegie. Edison was to eventually hold 1,093 patents over his lifetime, and his skill and speed as an operator is legendary. He nicknamed his first two children Marion and Thomas Jr. "Dot" and "Dash". Two years after his first wife Mary died at the age of 29, he proposed to his second wife Mina in Morse code that he had taught her, and she responded in kind.



Frisco depot at Chelsea, OK

The singing cowboy Gene Autry started out as a railway telegrapher on the Frisco Line. When not occupied with his operator duties, he would sing and play his guitar. As the story goes, in the summer of 1927 the humorist Will Rogers stopped by the telegraph office in the small town of Chelsea, Oklahoma, where he was visiting his sister. He was there to have his newspaper column telegraphed and happened to hear Autry singing. Rogers was so impressed that he suggested Autry consider going to New York and singing on the radio.

As the saying goes, the rest is history. Autry took Roger's advice, eventually moving from radio to Hollywood where he made a total of 93 movies. His first, "The Phantom Empire," has always been a personal favorite about a very advanced civilization that lived 25,000 feet under-

ground. It was the only science fiction cowboy movie ever made. I bought a copy recently and watched it again. I did not remember that there is one scene with him very comfortably using a telegraph key.

Telegraph technology has been called the "Victorian Internet," since it was a global network. In yet another book about the Civil War, the conflict is viewed through the lens of "T-mail" communications between generals and Lincoln, the only president to hold a patent. Although primitive compared to today's Internet, a social culture also developed within this interconnected network of operators with a legacy of many stories. Interestingly, the Victorian Internet provided attractive employment opportunities for women. For example, the Western Union office in New York employed 150 men and 60 women in 1875.

The style of sending Morse code was sometimes a distinguishing feature of an individual operator. A unique operator

“fist” could be used to recognize the individual simply by listening to his telegraphy. Friendships as well as romances sometimes developed over the network, and a few marriage ceremonies were conducted remotely over the lines.

Coming of the intercontinental telegraph

As astounding as the wiring of the United States from coast to coast was in 1861, it paled in comparison with the challenge and vision of a transatlantic telegraph cable connecting North America with Europe. The first attempt in 1858 by Cyrus Field to lay a cable was a failure, and many believed it would not be done for many years. So an alternative idea emerged for Western Union to build a line west to Europe through British Columbia, Alaska and Siberia.

Right-of-way negotiations had to be worked out with England and Russia. These discussions resulted in a surprising offer from Russia to sell the entire Alaska territory. Since Western Union was not interested in owning that much land, they contacted the U.S. Government and in 1867 the purchase was approved by the U.S. Senate for \$7,200,000, less than two cents an acre. So the state of Alaska is another "telegraph story." The Western Union project was called the “Russian-American Expedition,” and work proceeded with the first telegraph pole erected in Siberia on August 24, 1866.

After five attempts, on July 27, 1866 Cyrus Field successfully laid the first transatlantic cable, much earlier than Western Union expected. As a result, the line westward to Europe was no longer needed and work was stopped in Siberia. Hundreds of miles of telegraph lines were abandoned in British Columbia, and later prospectors who refused to pay high steamer prices plodded along “The Telegraph Trail” toward the Klondike gold fields.

Telegraphy and train dispatching



Train dispatcher at telegraph key

Early telegraph lines were often placed on railroad right of way, but their use by the railroads was not immediate. Credit for the idea is given to Charles Minot, superintendent of the Erie Railroad. On September 22, 1851, Minot was a passenger on a westbound Erie train that was waiting for an eastbound train to arrive. Delays of an hour or more were common before the days of telegraph dispatching. Minot happened to notice the telegraph line outside the train and had an idea. He went into the nearby station and telegraphed to the next station ahead and inquired if the eastbound train had arrived there. When told it had not, he instructed the agent there to hold the train when it arrived, then he ordered the engineer of his westbound train to proceed to the next station. When the engineer refused, Minot himself took control of the engine and took the train to the next station while the engineer and conductor sought refuge in the last car of the train, which they considered the safest place

to be! Train dispatching by telegraph then became the equivalent of today’s air traffic control system.

In the early days of telephone technology development, Alexander Graham Bell offered to sell his telephone patents to Western Union for \$100,000. The president of the company responded with, “What can we do with such an electrical toy?” and refused the offer. I was reminded of the magnitude of this missed opportunity recently when I read in the December 2016 issue of *Smithsonian* about visionary entrepreneur Jeff Bezos of Amazon and his recent demonstration of reusable rockets. According to the article, the response of aerospace insiders was, “Where will the demand come from?” Yet another echo from the past?

By the mid-1950s, most railroads had phased out use of the telegraph. Surprisingly, the telegraph was to continue in use for another half-century before finally succumbing to more modern communication technology. The end of the "Victorian Internet" finally arrived in the form of a press release from Western Union that read as follows: “Effective January 27, 2006, Western Union will discontinue all Telegram and Commercial Messaging Services.”

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Morse Code Training by the [Koch Method](#) : Free software is available

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In this classic Parker Lamb photo from 1960, a young boy appears captivated as the telegraph operator at Tolono, Illinois copies a train order. Many a young man began his railroad career by “cubbing” with a friendly operator at a small-town depot.

Railroad Operations

Railroad Rule Books

By Stan Burnett
(stan7742@otelco.net)

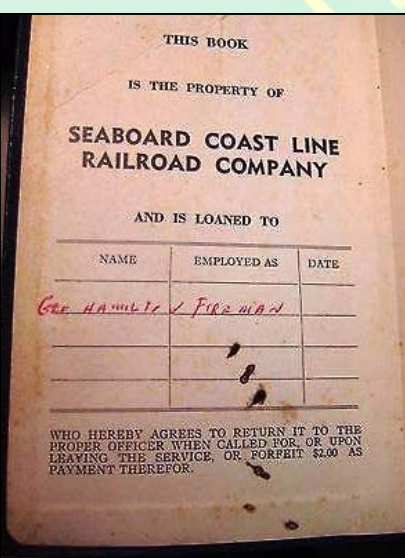


This brief article on rulebooks has been written from the point of view of railroad rule books as used in the past. Rule books are still used by the railroad companies, but they are different in many ways from those of the past. At one time over 100 Class I railroads issued rule books. Now there is only a handful of Class I railroads, and the 100-plus previous names are merely called “fallen flags.” Older rule books are a collectible, and on eBay older rule books sell for between \$5.00 to over \$100.00.

Concerning the format for rule books, in general the rail companies west of the Mississippi were in one format group while those east of the Mississippi were in another format group. The names of the groups have changed somewhat. The **GCOR** or General Code of Operating Rules format is used West of the Mississippi. The **NORAC** or Northeast Operating Rules Advisory Committee is the format for rule books in the northeast. However, Norfolk Southern and CSX have their own rule books, but they are based on the NORAC format combined with their own requirements.

Railroad rule books were issued to railroad employees who worked on trains out on the railroad. Rule books had to do with the everyday operation of trains on the railroad. The key word is **safety** and the safety concerns were for the train crews, passengers on passenger trains, and the general public.

Rule books were similar on different railroads, but each company might have some rules specific to its own use. Rule books were small books because the operating crew on a passenger train or freight train had them with them at all times. Occasionally a new rule or changed rule might be pasted in the back of the book, or pasted over a page until such times as the rule books could be revised and a new printing issued.



They were issued to engineers, conductors, and to other trainmen. Employees receiving a book had to sign for them. Usually an engineer or conductor signed as such, that is to say Frank Smith, Engineer or Jim Thomas, Conductor. Other operating employees signed as “trainman”. The term trainman would be used for several classifications of operating employees including fireman, flagman, brakeman, and on passenger trains the baggage man would also probably be issued a copy. In general, employees were to turn rule books in if they left the company, but many employees would keep their copy when they left the company. That was common practice.

Some people in a railroad office might have a copy, certainly the dispatcher, operating department officials, most station agents and station operators and other people involved in the movement of trains. A track repair crew would have at least one copy with them.

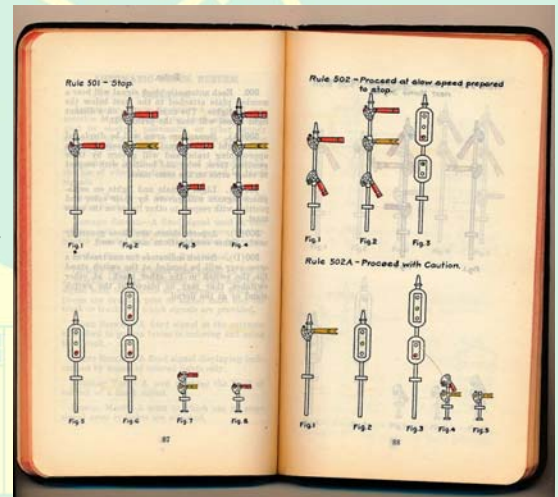
Rule books typically had many illustrations inside. Illustrations would include locomotive and caboose marker lights and track side signals. The older

rule books would illustrate locomotive marker lights showing the front of a steam locomotive. Newer books would illustrate by showing the front of a diesel locomotive. Rule books issued in the late 1950s might show steam and diesel electric locomotives, and rule books issued in the late 1950s and any time later showed only diesel electric locomotives. A few railroad rule books in the USA may have had illustrations of “all electric” locomotives.

These drawings were generally used to illustrate the position and color of classifications lights and flags on the locomotive and on the caboose. Locomotive marker lights were usually electric, but cabooses frequently used a lantern to show the required colors. Later cabooses had electric generators and used electric markers.

The color and location of the lights and flags would indicate to the trained employee a lot of information about the train. Typical uses on a locomotive would indicate “extra” movement (not a scheduled train) or “second section”.

A new employee, operating out on the railroad, had to know all the rules in “The Book” and would be tested on the company’s operating rules at the start of employment. They would periodically have tests at a later date, possibly more frequently if there were rule changes.



The rule book was for use all over the lines of the issuing railroad company. For example, a Seaboard Air Line rule book was used in any state where the Seaboard operated.

For operating department employees, the rule book was supplemented by an employee timetable. These were issued to company employees only, and were not for the public. The employee timetable showed all scheduled train movements over a particular division only, such as between Atlanta and Birmingham. The employee timetable carried many of the rules from the rule book, but not all. The employee timetable was larger than the rule book, but not as thick.

Typically a conductor and engineer, and other train crew as indicated had the following items with them. A rule book, an employee timetable for the division, a railroad watch, and copies of train orders as issued.

All railroad rule books have common rules as observed by the various associations. Nearly everyone knows of the ubiquitous Rule G. That is the rule prohibiting working intoxicated or under the influence.

Rule books and employee timetables were supplemented by bulletins which were issued at terminal stations. Bulletins might concern such issues as track work, special clearance problems, or whatever called for special notice to train crews. Train orders also supplemented the rule books and the bulletins.

Gulf, Mobile and Northern R. R.

Alabama and Tennessee Divisions

TIME TABLE
No. 26

Taking Effect 12:01 A.M.
SATURDAY, MARCH 31st, 1934

Superseding Time Table No. 25,
Dated September 1st, 1933

For the Government and Information
of Employees Only

Not intended for the information of the public,
nor as an advertisement of the time of trains.
The Railroad reserves the right to vary
therefrom as circumstances may require.

NOTE IMPORTANT CHANGES

P. E. ODELL, Vice-President
G. P. BROCK, General Manager
C. E. LANHAM, Superintendent Transportation

HASKEN PRINTING CO., NEW ORLEANS

Golden Era Classics



Breezing along the L&N — When we speak of “classic” railroad photos, most of us think of scenes from the steam or early diesel era. But later photographs of rare scenes would also qualify, as for example these two shots of the short-lived Amtrak *Gulf Breeze* that operated over the CSX between Birmingham and Mobile, with a through Pullman from New York plus a lounge car! In these 1990 shots, (above) the southbound train passes 14th Street interlocking. In the bottom image, the northbound train departs Montgomery after boarding passengers from the unique “grain silo” station stop.

